

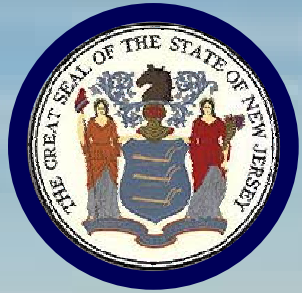
# NJDEP 2009 Beachfill



Strathmere, Sea Isle City,  
North Wildwood, & Stone Harbor, NJ



Bureau of Coastal Engineering  
New Jersey Dept. of Environmental Protection  
Office of Engineering & Construction



# New Jersey's Shore Protection Program



State of New Jersey  
Jon S. Corzine, Governor

Dept. of Environmental Protection  
Mark N. Mauriello, Acting Commissioner

Natural & Historic Resources  
Amy Cradic, Assistant Commissioner

Office of Engineering & Construction  
David Rosenblatt, Administrator

# Bureau of Coastal Engineering

## Purpose...

**To administer beach nourishment, shore protection and navigational dredging projects throughout the State to:**

- **Provide for the protection of life and property along the coast**
- **Preserve our State's vital coastal resources**
- **Maintain safe and navigable waterways**



# Shore Protection Fund

Dedicated for...

**“To protect existing development and infrastructure from storm surges, sea-level rise and shoreline migration through dune creation and maintenance, beach nourishment projects, and construction and repair of shore protection structures.”**

**\$25 million dedicated annually  
Realty Transfer Tax (N.J.S.A. C.13:19-16.1)**



New Jersey Dept. Environmental Protection  
Bureau of Coastal Engineering

Shore Protection Program

# Shore Protection Funding

## How It's Divided

### Federal Projects - NJDEP - local sponsor in these projects

- Studies
- Storm Damage Reduction/Shore Protection
- Environmental Restoration

### State Projects - Municipalities - local sponsor in these projects

- Storm Damage Reduction/Shore Protection

### Professional and Technical Services -

- Stevens Institute of Technology
- Richard Stockton College of New Jersey
- Division of Fish and Wildlife
- New Jersey Geological Survey



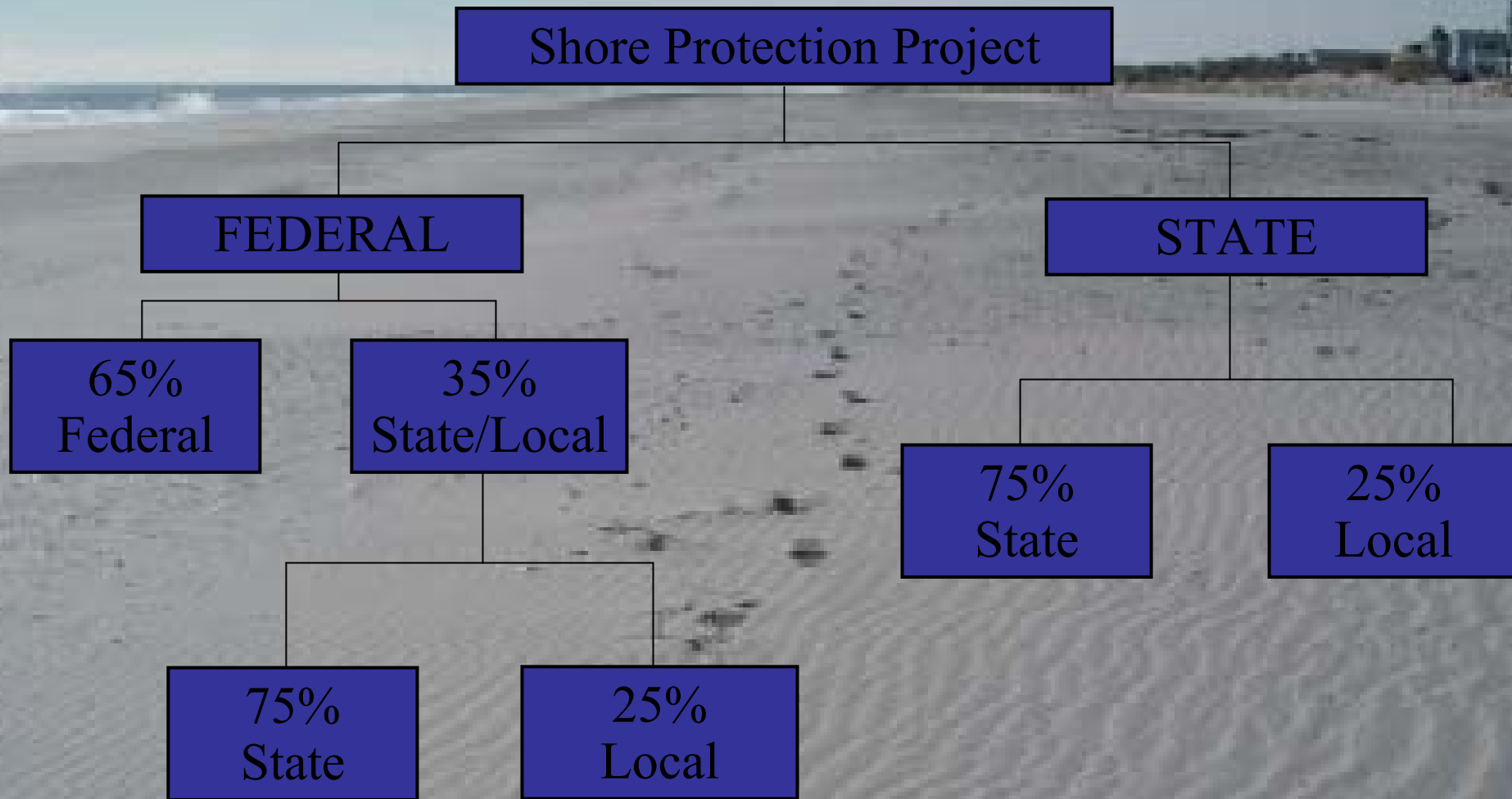
New Jersey Dept. Environmental Protection  
**Bureau of Coastal Engineering**

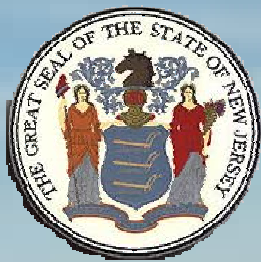
**Shore Protection Program**



# Shore Protection Construction

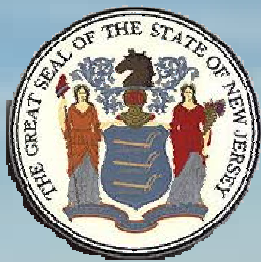
## Cost Share Structure





# Strathmere





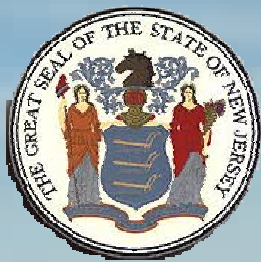
# Strathmere

## Project Specifics

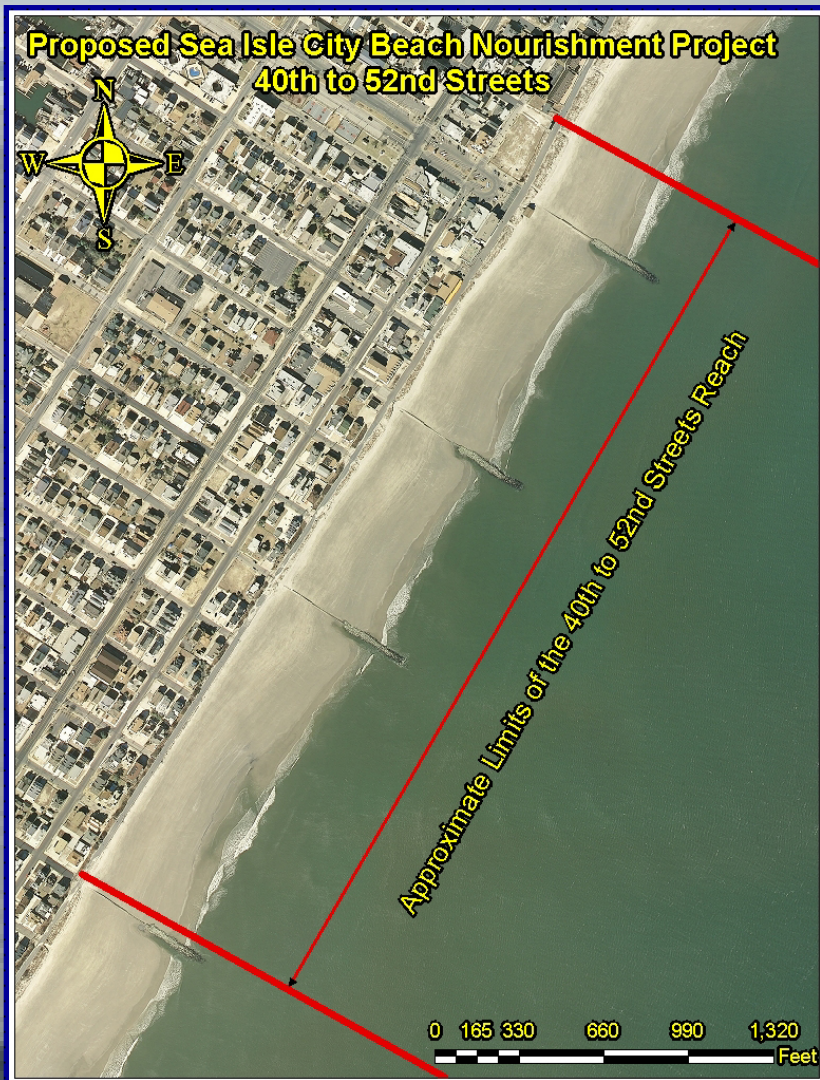


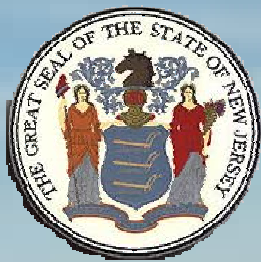
- Material
  - 891,000 Cubic Yards
- Template
  - Varying Width Berm
  - +6.75 NAVD88
  - 30:1 Beach Slope
- Location
  - State Natural – Polk Ave.





# Sea Isle City





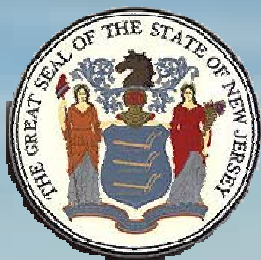
# Sea Isle City

## Project Specifics

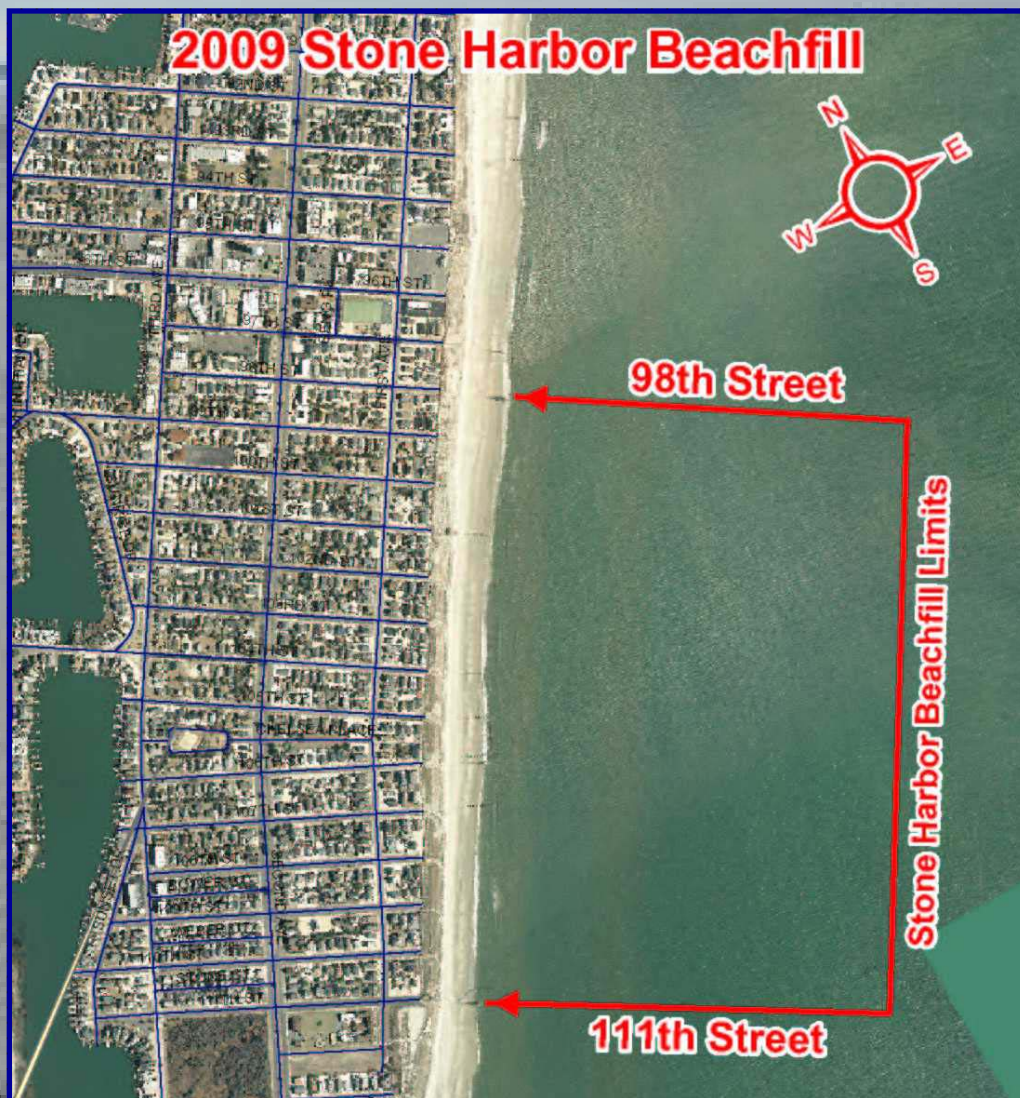


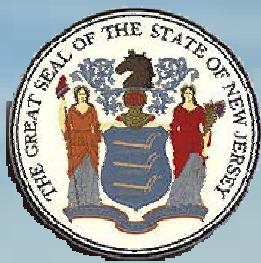
- **Material**
  - 394,797 Cubic Yards
- **Template**
  - 100' Wide Berm
  - +7.00 NAVD88
  - 30:1 Beach Slope
- **Location**
  - 1<sup>st</sup> Street – 15<sup>th</sup> Street
  - 40<sup>th</sup> Street – 52<sup>nd</sup> Street





# Stone Harbor





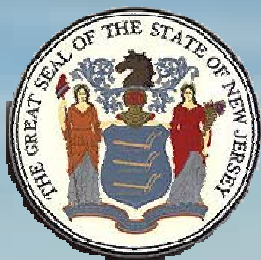
# Stone Harbor

## Project Specifics



- Material
  - 245,000 Cubic Yards
- Template
  - 150' Wide Berm
  - +7.25 NAVD88
  - 20:1 Beach Slope, 12:1 Toe Slope
- Location
  - 98<sup>th</sup> Street – 111<sup>th</sup> Street





# North Wildwood



# North Wildwood Beach Nourishment History – 10/1991





# North Wildwood Beach Nourishment History – 07/2004



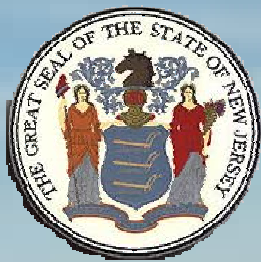
# North Wildwood Beach Nourishment History – 1991 Aerial





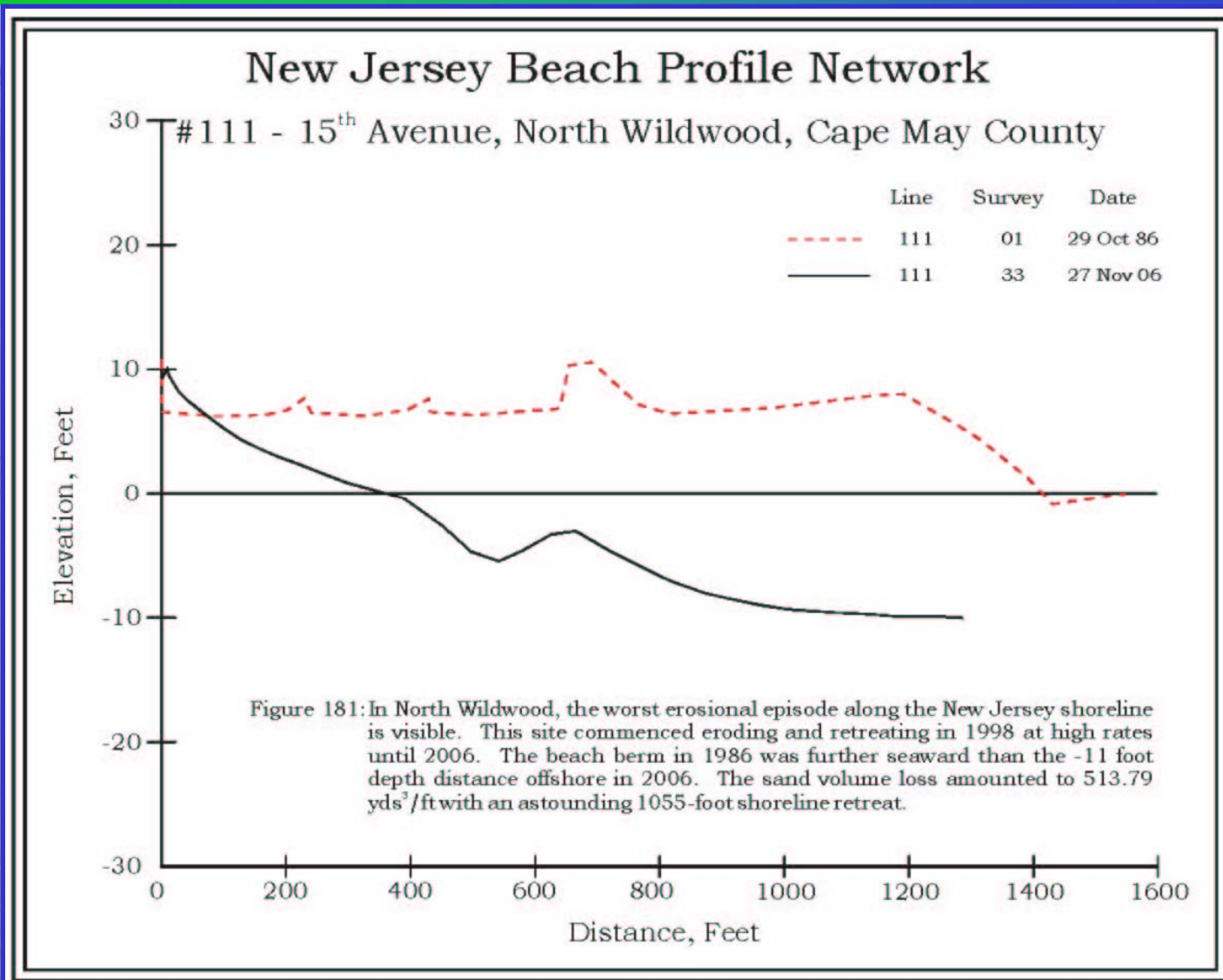
# North Wildwood Beach Nourishment History – 2007 Aerial



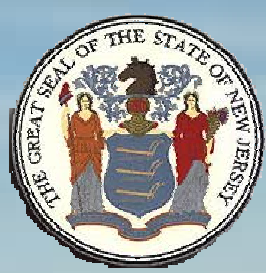


# North Wildwood

## Existing Conditions







# North Wildwood

## Existing Conditions



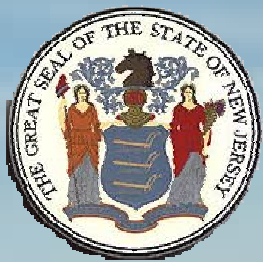
Project Limits 2<sup>nd</sup> Ave. – Poplar Ave.



Viewing South @ 2nd Ave.



Viewing North @ 24th Ave.



# North Wildwood

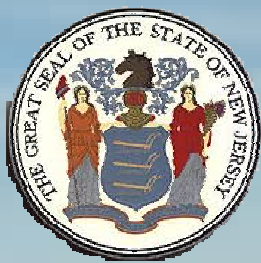
## Existing Conditions



Viewing South @ 16<sup>th</sup> Ave.

Viewing North @ Poplar Ave.



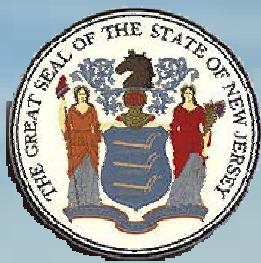


# North Wildwood

## Project Specifics



- **Template**
  - 300' Wide Berm
  - +6.75 NAVD88
  - 25:1 Beach Slope, 12:1 Toe Slope
  - Dune @ elevation +14.75 NAVD88, 25-foot wide crest
- **Additional Work**
  - Outfall Reconstruction – To maintain drainage
    - 2<sup>nd</sup> Avenue – 48" diameter
    - 21<sup>st</sup> Avenue – 48" diameter
    - Poplar Avenue (City of Wildwood) – 25" diameter
  - Sand Fence/Dune Grass – To stabilize the new dune
  - Crossover Work: 24 Crossovers total – 4 ADA and 3 vehicular
- **Location**
  - Terminal Groin @ 2<sup>nd</sup> Ave – Poplar Ave



# North Wildwood

## Project Specifics

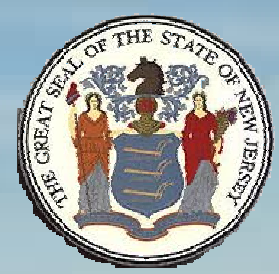


- Material
  - 1,186,400 Cubic Yards
- Borrow Area
  - Hereford Inlet
  - ‘Staircase’ Dredge Cut – To maintain integrity of the shoal
    - -12 ft. NAVD88 (landward portion), -19.5 ft. NAVD88 (middle portion), and -27.5 ft. NAVD88 (seaward portion)



# North Wildwood Beach Nourishment Borrow Area – Hereford Inlet





# North Wildwood Beach Nourishment

## What To Expect



- Dredge Pipeline and Heavy Machinery
- Beach Closings: 1,000' min. sections
  - Public Safety
  - Adequate Staging
- 24 Hour Operation
  - Continuous State Inspection
- Structure Monitoring
  - Adjacent to Structures

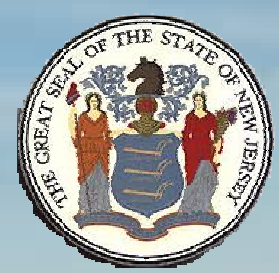


# Great Lakes Dredge and Dock Company



- Dredge ILLINOIS
- 30 inch discharge diameter
- Capable of pumping 2,500 cubic yards of sand 25,000 feet per hour

*The Illinois at work on Chesapeake Bay.*



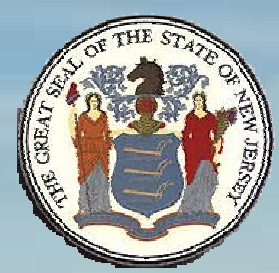
# North Wildwood Beach Nourishment Proposed Project Costs



- **Total Project Costs: \$ 22,282,401.40**
- **North Wildwood Proposed Costs:**
  - \$ 10,640,526.00
- **Cost Share:**
  - State = \$ 7,980,394.50
  - Municipality = \$ 2,660,131.50
    - Costs savings per municipality - \$273,333.33







# North Wildwood Beach Nourishment Environmental Concerns

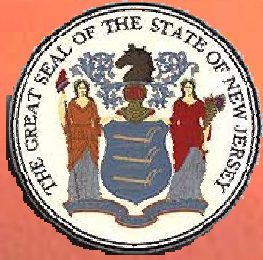


- **Piping Plover/Beach Nesting Birds**
  - Current conditions not favorable for habitat within footprint but have historically utilized the region
- **Archaeological Resources**
  - Protective measures adjacent to the Borrow Area footprint
- **Munitions/Debris**
  - Screened at Intake
  - Screened at Discharge





# New Jersey Department of Environmental Protection ***Shore Protection Program***



***[www.nj.gov/dep/shoreprotection](http://www.nj.gov/dep/shoreprotection)***